

## SEQUENCE LISTING

&lt;110&gt; Hellman, Lars T.

&lt;120&gt; ENHANCED VACCINES

&lt;130&gt; 10223/006001

&lt;140&gt; US 09/401,636

&lt;141&gt; 1999-09-22

&lt;150&gt; US 60/106,652

&lt;151&gt; 1998-11-02

&lt;160&gt; 11

&lt;170&gt; FastSEQ for Windows Version 4.0

&lt;210&gt; 1

&lt;211&gt; 331

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Synthetically generated proteins

&lt;400&gt; 1

Asp	Asn	Lys	Thr	Phe	Ser	Val	Cys	Ser	Arg	Asp	Phe	Thr	Pro	Pro	Thr
1				5					10					15	
Val	Lys	Ile	Leu	Gln	Ser	Ser	Cys	Asp	Gly	Gly	Gly	His	Phe	Pro	Pro
			20					25					30		
Thr	Ile	Gln	Leu	Leu	Cys	Leu	Val	Ser	Gly	Tyr	Thr	Pro	Gly	Thr	Ile
		35					40					45			
Asn	Ile	Thr	Trp	Leu	Glu	Asp	Gly	Gln	Val	Met	Asp	Val	Asp	Leu	Ser
	50				55					60					
Thr	Ala	Ser	Thr	Thr	Gln	Glu	Gly	Glu	Leu	Ala	Ser	Thr	Gln	Ser	Glu
	65				70				75						80
Leu	Thr	Leu	Ser	Gln	Lys	His	Trp	Leu	Ser	Asp	Arg	Thr	Tyr	Thr	Cys
				85				90						95	
Gln	Val	Thr	Tyr	Gln	Gly	His	Thr	Phe	Glu	Asp	Ser	Thr	Lys	Lys	Cys
		100						105					110		
Ala	Asp	Ser	Asn	Pro	Arg	Gly	Val	Ser	Ala	Tyr	Leu	Ser	Arg	Pro	Ser
	115					120						125			
Pro	Phe	Asp	Leu	Phe	Ile	Arg	Lys	Ser	Pro	Thr	Ile	Thr	Cys	Leu	Val
	130				135					140					
Val	Asp	Leu	Ala	Pro	Ser	Lys	Gly	Thr	Val	Asn	Leu	Thr	Trp	Ser	Arg
	145				150				155						160
Ala	Ser	Gly	Lys	Pro	Val	Asn	His	Ser	Thr	Arg	Lys	Glu	Glu	Lys	Gln
			165					170						175	
Arg	Asn	Gly	Thr	Leu	Thr	Val	Thr	Ser	Thr	Leu	Pro	Val	Gly	Thr	Arg
		180					185						190		
Asp	Trp	Ile	Glu	Gly	Glu	Thr	Tyr	Gln	Cys	Arg	Val	Thr	His	Pro	His
	195					200						205			
Leu	Pro	Arg	Ala	Leu	Met	Arg	Ser	Thr	Thr	Lys	Thr	Ser	Gly	Pro	Arg
	210				215					220					
Ala	Ala	Pro	Glu	Val	Tyr	Ala	Phe	Ala	Thr	Pro	Glu	Trp	Pro	Gly	Ser
	225				230				235						240
Arg	Asp	Lys	Arg	Thr	Leu	Ala	Cys	Leu	Ile	Gln	Asn	Phe	Met	Pro	Glu
			245					250					255		
Asp	Ile	Ser	Val	Gln	Trp	Leu	His	Asn	Glu	Val	Gln	Leu	Pro	Asp	Ala
			260				265						270		

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Arg	His	Ser	Thr	Thr	Gln	Pro	Arg	Lys	Thr	Lys	Gly	Ser	Gly	Phe	Phe
		275					280					285			
Val	Phe	Ser	Arg	Leu	Glu	Val	Thr	Arg	Ala	Glu	Trp	Glu	Gln	Lys	Asp
	290					295					300				
Glu	Phe	Ile	Cys	Arg	Ala	Val	His	Glu	Ala	Ala	Ser	Pro	Ser	Gln	Thr
305					310					315					320
Val	Gln	Arg	Ala	Val	Ser	Val	Asn	Pro	Gly	Lys					
				325					330						

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<210> 2
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<212> PRT
<213> Artificial Sequence
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<220>  
<223> Synthetically generated proteins

[illegible]

<210> 3  
 <211> 341  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetically generated proteins

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 1 5 10 15  
 Pro Val Thr Ile Ile Pro Pro Thr Val Lys Leu Phe His Ser Ser Cys  
 20 25 30  
 Asp Pro Arg Gly Asp Ala His Ser Thr Ile Gln Leu Leu Cys Leu Val  
 35 40 45  
 Ser Gly Phe Ser Pro Ala Lys Val His Val Thr Trp Leu Val Asp Gly  
 50 55 60  
 Gln Glu Ala Glu Asn Leu Phe Pro Tyr Thr Thr Arg Pro Lys Arg Glu  
 65 70 75 80  
 Gly Gly Gln Thr Phe Ser Leu Gln Ser Glu Val Asn Ile Thr Gln Gly  
 85 90 95  
 Gln Trp Met Ser Ser Asn Thr Tyr Thr Cys His Val Lys His Asn Gly  
 100 105 110  
 Ser Ile Phe Glu Asp Ser Ala Gln Lys Cys Ser Asp Thr Asp Pro Arg  
 115 120 125  
 Gly Ile Ser Ala Tyr Ile Leu Pro Pro Thr Pro Gln Asp Leu Phe Val  
 130 135 140  
 Lys Lys Val Pro Thr Ile Gly Cys Leu Ile Val Asp Leu Ala Ser Ala  
 145 150 155 160  
 Glu Asn Val Lys Val Thr Trp Ser Arg Glu Ser Gly Gly Pro Val Asn  
 165 170 175  
 Pro Ser Ser Leu Val Val Lys Glu Gln Tyr Asn Gly Thr Phe Thr Val  
 180 185 190  
 Thr Ser His Leu Pro Val Asn Thr Asp Asp Trp Ile Glu Gly Asp Thr  
 195 200 205  
 Tyr Thr Cys Arg Leu Glu Ser Pro Asp Met Pro Val Pro Leu Ile Arg  
 210 215 220  
 Thr Ile Ser Lys Ala Pro Gly Lys Arg Leu Ala Pro Glu Val Tyr Met  
 225 230 235 240  
 Leu Pro Pro Ser Pro Glu Glu Thr Gly Thr Thr Arg Thr Val Thr Cys  
 245 250 255  
 Leu Ile Arg Gly Phe Tyr Pro Ser Glu Ile Ser Val Gln Trp Leu Phe  
 260 265 270  
 Asn Asn Glu Glu Asp His Thr Gly His His Thr Thr Thr Arg Pro Gln  
 275 280 285  
 Lys Asp His Gly Thr Asp Pro Ser Phe Phe Leu Tyr Ser Arg Met Leu  
 290 295 300  
 Val Asn Lys Ser Ile Trp Glu Lys Gly Asn Leu Val Thr Cys Arg Val  
 305 310 315 320  
 Val His Glu Ala Leu Pro Gly Ser Arg Thr Leu Glu Lys Ser Leu His  
 325 330 335  
 Tyr Ser Ala Gly Asn  
 340

<210> 4  
 <211> 341  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetically generated proteins

&lt;400&gt; 4

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Glu Phe His His His His His His Thr Leu Ser Leu Pro Glu Ser Gly
 1           5           10           15
Pro Val Thr Ile Ile Pro Pro Thr Val Lys Leu Phe His Ser Ser Cys
           20           25           30
Asp Pro Arg Gly Asp Ala His Ser Thr Ile Gln Leu Leu Cys Leu Val
           35           40           45
Ser Gly Phe Ser Pro Ala Lys Val His Val Thr Trp Leu Val Asp Gly
           50           55           60
Gln Glu Ala Glu Asn Leu Phe Pro Tyr Thr Thr Arg Pro Lys Arg Glu
           65           70           75           80
Gly Gly Gln Thr Phe Ser Leu Gln Ser Glu Val Asn Ile Thr Gln Gly
           85           90           95
Gln Trp Met Ser Ser Asn Thr Tyr Thr Cys His Val Lys His Asn Gly
           100          105          110
Ser Ile Phe Glu Asp Ser Ser Arg Arg Cys Ser Asp Asp Glu Pro Arg
           115          120          125
Gly Val Ile Thr Tyr Leu Ile Pro Pro Ser Pro Leu Asp Leu Tyr Glu
           130          135          140
Asn Gly Thr Pro Lys Leu Thr Cys Leu Val Leu Asp Leu Glu Ser Glu
           145          150          155          160
Glu Asn Ile Thr Val Thr Trp Val Arg Glu Arg Lys Lys Ser Ile Gly
           165          170          175
Ser Ala Ser Gln Arg Ser Thr Lys His His His Ala Thr Thr Ser Ile
           180          185          190
Thr Ser Ile Leu Pro Val Asp Ala Lys Asp Trp Ile Glu Gly Glu Gly
           195          200          205
Tyr Gln Cys Arg Val Asp His Pro His Phe Pro Lys Pro Ile Val Arg
           210          215          220
Ser Ile Thr Lys Leu Pro Gly Lys Arg Leu Ala Pro Glu Val Tyr Met
           225          230          235          240
Leu Pro Pro Ser Pro Glu Glu Thr Gly Thr Thr Arg Thr Val Thr Cys
           245          250          255
Leu Ile Arg Gly Phe Tyr Pro Ser Glu Ile Ser Val Gln Trp Leu Pro
           260          265          270
Asn Asn Glu Glu Asp His Thr Gly His His Thr Thr Thr Arg Pro Gln
           275          280          285
Lys Asp His Gly Thr Asp Pro Ser Phe Phe Leu Tyr Ser Arg Met Leu
           290          295          300
Val Asn Lys Ser Ile Trp Glu Lys Gly Asn Leu Val Thr Cys Arg Val
           305          310          315          320
Val His Glu Ala Leu Pro Gly Ser Arg Thr Leu Glu Lys Ser Leu His
           325          330          335
Tyr Ser Ala Gly Asn
           340

```

&lt;210&gt; 5

&lt;211&gt; 342

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Synthetically generated proteins

&lt;400&gt; 5

```

Glu Phe His His His His His His Thr Leu Ser Leu Pro Glu Ser Gly
 1           5           10           15
Pro Val Thr Ile Ile Pro Pro Thr Val Lys Leu Phe His Ser Ser Cys
           20           25           30
Asp Pro Arg Gly Asp Ala His Ser Thr Ile Gln Leu Leu Cys Leu Val
           35           40           45

```

Ser Gly Phe Ser Pro Ala Lys Val His Val Thr Trp Leu Val Asp Gly  
 50 55 60  
 Gln Glu Ala Glu Asn Leu Phe Pro Tyr Thr Thr Arg Pro Lys Arg Glu  
 65 70 75 80  
 Gly Gly Gln Thr Phe Ser Leu Gln Ser Glu Val Asn Ile Thr Gln Gly  
 85 90 95  
 Gln Trp Met Ser Ser Asn Thr Tyr Thr Cys His Val Lys His Asn Gly  
 100 105 110  
 Ser Ile Phe Glu Asp Ser Ser Arg Arg Cys Ser Asp Asp Glu Pro Arg  
 115 120 125  
 Gly Val Ile Thr Tyr Leu Ile Pro Pro Ser Pro Leu Asp Leu Tyr Glu  
 130 135 140  
 Asn Gly Thr Pro Lys Leu Thr Cys Leu Val Leu Asp Leu Glu Ser Glu  
 145 150 155 160  
 Glu Asn Ile Thr Val Thr Trp Val Arg Glu Arg Lys Lys Ser Ile Gly  
 165 170 175  
 Ser Ala Arg Ser Ser Leu Val Val Lys Glu Gln Tyr Asn Gly Thr Phe Thr  
 180 185 190  
 Val Thr Ser His Leu Pro Val Asn Thr Asp Asp Trp Ile Glu Gly Asp  
 195 200 205  
 Thr Tyr Thr Cys Arg Leu Glu Ser Pro Asp Met Pro Tyr Pro Leu Ile  
 210 215 220  
 Arg Thr Ile Ser Lys Ala Pro Gly Lys Arg Leu Ala Pro Glu Val Tyr  
 225 230 235 240  
 Met Leu Pro Pro Ser Pro Glu Glu Thr Gly Thr Thr Arg Thr Val Thr  
 245 250 255  
 Cys Leu Ile Arg Gly Phe Tyr Pro Ser Glu Ile Ser Val Gln Trp Leu  
 260 265 270  
 Pro Asn Asn Glu Glu Asp His Thr Gly His His Thr Thr Thr Arg Pro  
 275 280 285  
 Gln Lys Asp His Gly Thr Asp Pro Ser Phe Phe Leu Tyr Ser Arg Met  
 290 295 300  
 Leu Val Asn Lys Ser Ile Trp Glu Lys Gly Asn Leu Val Thr Cys Arg  
 305 310 315 320  
 Val Val His Glu Ala Leu Pro Gly Ser Arg Thr Leu Glu Lys Ser Leu  
 325 330 335  
 His Tyr Ser Ala Gly Asn  
 340

&lt;210&gt; 6

&lt;211&gt; 341

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Synthetically generated proteins

&lt;400&gt; 6

Glu Phe His His His His His His Thr Leu Ser Leu Pro Glu Ser Gly  
 1 5 10 15  
 Pro Val Thr Ile Ile Pro Pro Thr Val Lys Leu Phe His Ser Ser Cys  
 20 25 30  
 Asp Pro Arg Gly Asp Ala His Ser Thr Ile Gln Leu Leu Cys Leu Val  
 35 40 45  
 Ser Gly Phe Ser Pro Ala Lys Val His Val Thr Trp Leu Val Asp Gly  
 50 55 60  
 Gln Glu Ala Glu Asn Leu Ph Pro Tyr Thr Thr Arg Pro Lys Arg Glu  
 65 70 75 80  
 Gly Gly Gln Thr Phe Ser Leu Gln Ser Glu Val Asn Il Thr Gln Gly  
 85 90 95  
 Gln Trp Met Ser Ser Asn Thr Tyr Thr Cys His Val Lys His Asn Gly  
 100 105 110

Ser Ile Phe Glu Asp Ser Ser Arg Arg Cys Pro Asp His Glu Pro Arg  
 115 120 125  
 Gly Val Ile Thr Tyr Leu Ile Pro Pro Ser Pro Leu Asp Leu Tyr Gln  
 130 135 140  
 Asn Gly Ala Pro Lys Leu Thr Cys Leu Val Val Asp Leu Glu Ser Glu  
 145 150 155 160  
 Lys Asn Val Asn Val Thr Trp Asn Gln Glu Lys Lys Thr Ser Val Asn  
 165 170 175  
 Ala Ser Gln Trp Tyr Thr Lys His His Asn Asn Ala Thr Thr Ser Ile  
 180 185 190  
 Thr Ser Ile Leu Pro Val Val Ala Lys Asp Trp Ile Glu Gly Tyr Gly  
 195 200 205  
 Tyr Gln Cys Ile Val Asp His Pro Asp Phe Pro Lys Pro Ile Val Arg  
 210 215 220  
 Ser Ile Thr Lys Leu Pro Gly Lys Arg Leu Ala Pro Glu Val Tyr Met  
 225 230 235 240  
 Leu Pro Pro Ser Pro Glu Glu Thr Gly Thr Thr Arg Thr Val Thr Cys  
 245 250 255  
 Leu Ile Arg Gly Phe Tyr Pro Ser Glu Ile Ser Val Gln Trp Leu Pro  
 260 265 270  
 Asn Asn Glu Glu Asp His Thr Gly His His Thr Thr Thr Arg Pro Gln  
 275 280 285  
 Lys Asp His Gly Thr Asp Pro Ser Phe Phe Leu Tyr Ser Arg Met Leu  
 290 295 300  
 Val Asn Lys Ser Ile Trp Glu Lys Gly Asn Leu Val Thr Cys Arg Val  
 305 310 315 320  
 Val His Glu Ala Leu Pro Gly Ser Arg Thr Leu Glu Lys Ser Leu His  
 325 330 335  
 Tyr Ser Ala Gly Asn  
 340

&lt;210&gt; 7

&lt;211&gt; 343

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Synthetically generated proteins

&lt;400&gt; 7

Glu Phe His His His His His His Thr Glu Val Tyr Ser Asp Ser Ser  
 1 5 10 15  
 Lys Asp Pro Ile Pro Pro Thr Val Lys Leu Leu His Ser Ser Cys Asp  
 20 25 30  
 Pro Arg Gly Asp Ser Gln Ala Ser Ile Glu Leu Leu Cys Leu Ile Thr  
 35 40 45  
 Gly Tyr Ser Pro Ala Gly Ile Gln Val Asp Trp Leu Val Asp Gly Gln  
 50 55 60  
 Lys Ala Glu Asn Leu Phe Pro Tyr Thr Ala Pro Pro Lys Arg Glu Gly  
 65 70 75 80  
 Asn Arg Ser Phe Ser Ser His Ser Glu Val Asn Ile Thr Gln Asp Gln  
 85 90 95  
 Trp Leu Ser Gly Lys Thr Phe Thr Cys Gln Val Thr His Leu Ala Asp  
 100 105 110  
 Lys Lys Thr Tyr Gln Asp Ser Ala Pro Lys Cys Ala Asp Ser Asp Pro  
 115 120 125  
 Arg Gly Ile Thr Val Phe Ile Thr Pro Pro Ser Pro Thr Asp Leu Tyr  
 130 135 140  
 Ile Ser Lys Thr Pro Lys Leu Thr Cys Leu Ile Ile Asp Leu Val Ser  
 145 150 155 160  
 Thr Glu Gly Met Glu Val Thr Trp Ser Arg Glu Ser Gly Thr Pro L u  
 165 170 175

```

Ser Ala Glu Ser Phe Glu Glu Gln Lys Gln Phe Asn Gly Thr Met Ser
      180      185      190
Phe Ile Ser Thr Val Pro Val Asn Ile Gln Asp Trp Asn Arg Gly Glu
      195      200      205
Ser Tyr Thr Cys Pro Val Ala His Pro Asp Leu Pro Ser Pro Ile Ile
      210      215      220
Lys Thr Val Thr Lys Leu Pro Gly Lys Pro Leu Ala Pro Glu Val Tyr
      225      230      235      240
Ala Phe Pro Pro His Gln Ala Glu Val Ser His Gly Ala Ser Leu Ser
      245      250      255
Leu Thr Cys Leu Ile Pro Gly Phe Tyr Pro Glu Asn Ile Ser Val Arg
      260      265      270
Trp Leu Leu Asp Asn Lys Pro Leu Pro Thr Glu His Tyr Arg Thr Thr
      275      280      285
Lys Pro Leu Lys Asp Gln Gly Pro Asp Pro Ala Tyr Phe Leu Tyr Ser
      290      295      300
Pro Leu Ala Val Asn Lys Ser Thr Trp Glu Gln Gly Asn Val Tyr Thr
      305      310      315      320
Cys Gln Val Val His Glu Ala Leu Pro Ser Arg Asn Thr Glu Arg Lys
      325      330      335
Phe Gln His Thr Ser Gly Asn
      340

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&lt;210&gt; 8

&lt;211&gt; 342

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Synthetically generated proteins

&lt;400&gt; 8

```

Glu Phe His His His His His Thr Leu Ser Leu Pro Glu Ser Gly
  1           5           10           15
Pro Val Thr Ile Ile Pro Pro Thr Val Lys Leu Phe His Ser Ser Cys
      20      25      30
Asp Pro Arg Gly Asp Ala His Ser Thr Ile Gln Leu Leu Cys Leu Val
      35      40      45
Ser Gly Phe Ser Pro Ala Lys Val His Val Thr Trp Leu Val Asp Gly
      50      55      60
Gln Glu Ala Glu Asn Leu Phe Pro Tyr Thr Thr Arg Pro Lys Arg Glu
      65      70      75      80
Gly Gly Gln Thr Phe Ser Leu Gln Ser Glu Val Asn Ile Thr Gln Gly
      85      90      95
Gln Trp Met Ser Ser Asn Thr Tyr Thr Cys His Val Lys His Asn Gly
      100      105      110
Ser Ile Phe Glu Asp Ser Ser Arg Lys Cys Ala Asp Ser Asn Pro Arg
      115      120      125
Gly Val Ser Ala Tyr Leu Ser Arg Pro Ser Pro Phe Asp Leu Phe Ile
      130      135      140
Arg Lys Ser Pro Thr Ile Thr Cys Leu Val Val Asp Leu Ala Pro Ser
      145      150      155      160
Lys Gly Thr Val Asn Leu Thr Trp Ser Arg Ala Ser Gly Lys Pro Val
      165      170      175
Asn His Ser Thr Arg Lys Glu Glu Lys Gln Arg Asn Gly Thr Leu Thr
      180      185      190
Val Thr Ser Thr Leu Pro Val Gly Thr Arg Asp Trp Ile Glu Gly Glu
      195      200      205
Thr Tyr Gln Cys Arg Val Thr His Pro His Leu Pro Arg Ala Leu Met
      210      215      220
Arg Ser Thr Thr Lys Leu Pro Gly Lys Arg Leu Ala Pro Glu Val Tyr
      225      230      235      240

```

```

Met Leu Pro Pro Ser Pro Glu Glu Thr Gly Thr Thr Arg Thr Val Thr
                245                250                255
Cys Leu Ile Arg Gly Phe Tyr Pro Ser Glu Ile Ser Val Gln Trp Leu
                260                265                270
Phe Asn Asn Glu Glu Asp His Thr Gly His His Thr Thr Arg Pro
                275                280                285
Gln Lys Asp His Gly Thr Asp Pro Ser Phe Phe Leu Tyr Ser Arg Met
                290                295                300
Leu Val Asn Lys Ser Ile Trp Glu Lys Gly Asn Leu Val Thr Cys Arg
305                310                315
Val Val His Glu Ala Leu Pro Gly Ser Arg Thr Leu Glu Lys Ser Leu
                325                330                335
His Tyr Ser Ala Gly Asn
                340

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&lt;210&gt; 9

&lt;211&gt; 341

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Synthetically generated proteins

&lt;400&gt; 9

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Glu Phe His His His His His His Thr Leu Ser Leu Pro Glu Ser Gly
 1                5                10                15
Pro Val Thr Ile Ile Pro Pro Thr Val Lys Leu Phe His Ser Ser Cys
                20                25                30
Asp Pro Arg Gly Asp Ala His Ser Thr Ile Gln Leu Leu Cys Leu Val
                35                40                45
Ser Gly Phe Ser Pro Ala Lys Val His Val Thr Trp Leu Val Asp Gly
 50                55                60
Gln Glu Ala Glu Asn Leu Phe Pro Tyr Thr Thr Arg Pro Lys Arg Glu
 65                70                75                80
Gly Gly Gln Thr Phe Ser Leu Gln Ser Glu Val Asn Ile Thr Gln Gly
                85                90                95
Gln Trp Met Ser Ser Asn Thr Tyr Thr Cys His Val Lys His Asn Gly
100                105                110
Ser Ile Phe Glu Asp Ser Ser Arg Arg Cys Ser Asp Asp Glu Pro Arg
115                120                125
Gly Val Ile Thr Tyr Leu Ile Pro Pro Ser Pro Leu Asp Leu Tyr Glu
130                135                140
Asn Gly Thr Pro Lys Leu Thr Cys Leu Val Leu Asp Leu Glu Ser Glu
145                150                155                160
Glu Asn Ile Thr Val Thr Trp Val Arg Glu Arg Lys Lys Ser Ile Gly
                165                170                175
Ser Ala Ser Gln Arg Ser Thr Lys His His Asn Ala Thr Thr Ser Ile
180                185                190
Thr Ser Ile Leu Pro Val Asp Ala Lys Asp Trp Ile Glu Gly Glu Gly
195                200                205
Tyr Gln Cys Arg Val Asp His Pro His Phe Pro Lys Pro Ile Val Arg
210                215                220
Ser Ile Thr Lys Leu Pro Gly Lys Arg Leu Ala Pro Glu Val Tyr Met
225                230                235                240
Leu Pro Pro Ser Pro Glu Glu Thr Gly Thr Thr Arg Thr Val Thr Cys
                245                250                255
Leu Ile Arg Gly Phe Tyr Pro Ser Glu Ile Ser Val Gln Trp Leu Phe
                260                265                270
Asn Asn Glu Glu Asp His Thr Gly His His Thr Thr Thr Arg Pro Gln
275                280                285
Lys Asp His Gly Thr Asp Pro Ser Phe Phe Leu Tyr Ser Arg Met L u
290                295                300

```



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Val Asn Lys Ser Ile Trp Glu Lys Gly Asn Leu Val Thr Cys Arg Val  
305 310 315 320  
Val His Glu Ala Leu Pro Gly Ser Arg Thr Leu Glu Lys Ser Leu His  
325 330 335  
Tyr Ser Ala Gly Asn  
340

<210> 10

<211> 345

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated proteins

<400> 10

Glu Phe His His His His His His Thr Leu Ser Leu Pro Glu Ser Gly  
1 5 10 15  
Pro Val Thr Ile Ile Pro Pro Thr Val Lys Leu Phe His Ser Ser Cys  
20 25 30  
Asp Pro Arg Gly Asp Ala His Ser Thr Ile Gln Leu Leu Cys Leu Val  
35 40 45  
Ser Gly Phe Ser Pro Ala Lys Val His Val Thr Trp Leu Val Asp Gly  
50 55 60  
Gln Glu Ala Glu Asn Leu Phe Pro Tyr Thr Thr Arg Pro Lys Arg Glu  
65 70 75 80  
Gly Gly Gln Thr Phe Ser Leu Gln Ser Glu Val Asn Ile Thr Gln Gly  
85 90 95  
Gln Trp Met Ser Ser Asn Thr Tyr Thr Cys His Val Lys His Asn Gly  
100 105 110  
Ser Ile Phe Glu Asp Ser Ser Arg Arg Cys Thr Ala Glu Ser Glu Pro  
115 120 125  
Arg Gly Val Ser Ala Tyr Leu Ser Pro Pro Thr Pro Leu Asp Leu Tyr  
130 135 140  
Val His Lys Ser Pro Lys Leu Thr Cys Leu Val Val Asp Leu Ala Ser  
145 150 155 160  
Ser Glu Asn Val Asn Leu Leu Trp Ser Arg Glu Asn Lys Gly Gly Val  
165 170 175  
Ile Leu Pro Pro Pro Gly Pro Pro Val Ile Lys Pro Gln Phe Asn Gly  
180 185 190  
Thr Phe Ser Ala Thr Ser Thr Leu Pro Val Asn Val Ser Asp Trp Ile  
195 200 205  
Glu Gly Glu Thr Tyr Tyr Cys Asn Val Thr His Pro Asp Leu Pro Lys  
210 215 220  
Pro Ile Leu Arg Ser Ile Ser Lys Leu Pro Gly Lys Arg Leu Ala Pro  
225 230 235 240  
Glu Val Tyr Met Leu Pro Pro Ser Pro Glu Glu Thr Gly Thr Thr Arg  
245 250 255  
Thr Val Thr Cys Leu Ile Arg Gly Phe Tyr Pro Ser Glu Ile Ser Val  
260 265 270  
Gln Trp Leu Phe Asn Asn Glu Glu Asp His Thr Gly His His Thr Thr  
275 280 285  
Thr Arg Pro Gln Lys Asp His Gly Thr Asp Pro Ser Phe Phe Leu Tyr  
290 295 300  
Ser Arg Met Leu Val Asn Lys Ser Ile Trp Glu Lys Gly Asn Leu Val  
305 310 315 320  
Thr Cys Arg Val Val His Glu Ala Leu Pro Gly Ser Arg Thr Leu Glu  
325 330 335  
Lys Ser Leu His Tyr Ser Ala Gly Asn  
340 345

<210> 11  
 <211> 341  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetically generated proteins

<400> 11  
 Glu Phe His His His His His His Thr Leu Ser Leu Pro Glu Ser Gly  
 1 5 10 15  
 Pro Val Thr Ile Ile Pro Pro Thr Val Lys Leu Phe His Ser Ser Cys  
 20 25 30  
 Asp Pro Arg Gly Asp Ala His Ser Thr Ile Gln Leu Leu Cys Leu Val  
 35 40 45  
 Ser Gly Phe Ser Pro Ala Lys Val His Val Thr Trp Leu Val Asp Gly  
 50 55 60  
 Gln Glu Ala Glu Asn Leu Phe Pro Tyr Thr Thr Arg Pro Lys Arg Glu  
 65 70 75 80  
 Gly Gly Gln Thr Phe Ser Leu Gln Ser Glu Val Asn Ile Thr Gln Gly  
 85 90 95  
 Gln Trp Met Ser Ser Asn Thr Tyr Thr Cys His Val Lys His Asn Gly  
 100 105 110  
 Ser Ile Phe Glu Asp Ser Ser Arg Lys Cys Ser Glu Ser Asp Pro Arg  
 115 120 125  
 Gly Val Thr Ser Tyr Leu Ser Pro Pro Ser Pro Leu Asp Leu Tyr Val  
 130 135 140  
 His Lys Ala Pro Lys Ile Thr Cys Leu Val Val Asp Leu Ala Thr Met  
 145 150 155 160  
 Glu Gly Met Asn Leu Thr Trp Tyr Arg Glu Ser Lys Glu Pro Val Asn  
 165 170 175  
 Pro Gly Pro Leu Asn Lys Lys Asp His Phe Asn Gly Thr Ile Thr Val  
 180 185 190  
 Thr Ser Thr Leu Pro Val Asn Thr Asn Asp Trp Ile Glu Gly Glu Thr  
 195 200 205  
 Tyr Tyr Cys Arg Val Thr His Pro His Leu Pro Lys Asp Ile Val Arg  
 210 215 220  
 Ser Ile Ala Lys Leu Pro Gly Lys Arg Leu Ala Pro Glu Val Tyr Met  
 225 230 235 240  
 Leu Pro Pro Ser Pro Glu Glu Thr Gly Thr Thr Arg Thr Val Thr Cys  
 245 250 255  
 Leu Ile Arg Gly Phe Tyr Pro Ser Glu Ile Ser Val Gln Trp Leu Phe  
 260 265 270  
 Asn Asn Glu Glu Asp His Thr Gly His His Thr Thr Thr Arg Pro Gln  
 275 280 285  
 Lys Asp His Gly Thr Asp Pro Ser Phe Phe Leu Tyr Ser Arg Met Leu  
 290 295 300  
 Val Asn Lys Ser Ile Trp Glu Lys Gly Asn Leu Val Thr Cys Arg Val  
 305 310 315 320  
 Val His Glu Ala Leu Pro Gly Ser Arg Thr Leu Glu Lys Ser Leu His  
 325 330 335  
 Tyr Ser Ala Gly Asn  
 340